

management is an important component of integrated management of corn diseases.

Selected References. 142, 224, 226

Birds and Mammals

By Richard A. Dolbeer

Several species of birds and mammals cause substantial losses to sprouting and ripening corn. Some birds, especially crows (*Corvus brachyrhynchos*) and grackles (*Quiscalus quiscula*), uproot sprouting corn to feed on germinating kernels. Red-winged blackbirds (*Agelaius phoeniceus*) and grackles destroy more than 360,000 metric tons of ripening field corn annually in the United States and Canada. Losses can be particularly severe in sweet corn because even slight bird damage renders ears unmarketable as fresh produce. Most loss of ripening corn to birds occurs within 5 mi (8 km) of marshes where blackbirds roost in late summer. These roosts sometimes contain more than 1 million birds. Blackbirds typically slit open husks with their bills to puncture kernels in the milk stage, leaving the kernel coats attached to the cob. Subsequent secondary damage caused by mold often occurs. Blackbirds frequent fields heavily infested with insects such as rootworms and corn earworm, feeding extensively on these insects as well as on corn. Suppression of insect populations in

corn makes these sites less attractive to blackbirds. The use of corn varieties with long, thick husks also reduces the extent of injury. Blackbirds can be frightened from fields with propane exploders and shotguns.

Rodents such as thirteen-lined ground squirrels (*Spermophilus tridecemlineatus*), deer mice (*Peromysus maniculatus*), house mice (*Mus domesticus*), and prairie and meadow voles (*Microtus* spp.) will feed on germinating corn seeds. Losses can be substantial, requiring replanting, especially in no-till plantings and in cropping systems that include cover crops. Vegetation provides ample food to encourage reproduction and overhead cover for safety from predators. The lack of tillage allows undisturbed establishment of burrows. Damage occurs in these fields after preemergence herbicide applications destroy much of the food resources of the rodents, forcing them to feed upon corn seeds and young plants. Woodchucks (*Marmota monax*) also feed on sprouting corn plants along field edges. Alternative feeding, chemical repellents, habitat modification, and poison baits (registered in some states) are recommended for management of rodents in corn.

Injury to ripening ears by populations of white-tailed deer (*Odocoileus virginianus*) and raccoons (*Procyon lotor*) is an increasing problem. Deer typically nip off ear tips, whereas raccoons chew through husks, often pulling plants down. Management of deer and raccoon populations through hunting or trapping is the best approach for reducing the level of injury.

Selected References. 70, 71, 72, 73

Dolbeer, Richard A. 1999. Birds and Mammals. Page 21 in Kevin L. Steffey, et al. editor. Handbook of Corn Pests. Entomological Society of America, Lanham, MD. 164p.